

**DRAFT SCREENING SITE INVESTIGATION  
FOR THE  
U.S. SMELTING WORKS SITE  
AMERICAN STREET AND BRISTOL STREET  
PHILADELPHIA, PENNSYLVANIA  
ECKEL SITE NUMBER 68**

Prepared for

U.S. Environmental Protection Agency Region 3  
Hazardous Site Cleanup Division  
1650 Arch Street  
Philadelphia, PA 19103

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Remedial Action Contract No. 68-S7-3002  
Work Assignment No. 048-PAPA-03ZZ  
Project No. I4185.47502.0903

February 1, 2007

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## **1.0 INTRODUCTION**

Under Remedial Action Contract (RAC) No. 68-S7-3002, Work Assignment No. 048-PAPA-03ZZ, U.S. Environmental Protection Agency (EPA) Region 3 tasked Tetra Tech, Inc. (Tt), to assist EPA Region 3 in the assessment of properties suspected to have been former lead smelter foundries. Tt subcontracted completion of this work assignment to Tetra Tech EM Inc. (Tetra Tech).

Former lead smelter sites nationwide were identified in an April 2001 article published in the American Journal of Public Health by Eckel, and others (Eckel study) (Reference [Ref.] 1). The majority of these lead smelters operated prior to 1964 and closed before the current environmental regulations were instituted. As part of the Eckel study, soil samples were collected from several of the identified former lead smelter properties. Results from the analysis of these soil samples indicated that concentrations of lead exceeded EPA's recommended screening level for lead in residential soils. The results of the Eckel study indicate that the air disposition of lead into soils from the former smelter operations may present an ongoing public health concern due to exposure of residential populations, especially children, located in the vicinity of these former lead smelters, to soils containing elevated concentrations of lead (Refs. 1, 2, and 3).

The Eckel study identified 77 properties that may have been formerly used as lead smelters within EPA Region 3 (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia). EPA Region 3 is currently investigating these 77 properties. The objective of EPA's investigation of these properties is to (1) determine the potential for lead-contaminated soil to be present at the former lead smelter site or nearby properties (2) identify any populations that may be at risk to exposure to this soil, and (3) determine if soil sampling is warranted at any of these sites or nearby properties.

The following activities were completed as part of the initial screening investigation of each of these former lead smelter sites: (1) verify the former lead smelter address listed in the Eckel

study through historical Sanborn fire insurance maps, tax parcel information, and/or contacting local agencies, (2) determine if the site is listed in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database, (3) determine through census information and existing maps the number of schools, daycare centers or recreational parks that exist near the former lead smelter site, (4) determine the population residing within a 4-mile radius of the site, (5) conduct a windshield reconnaissance of the site and surrounding area to document the current land use, identify any exposed soil and verify the existence of any schools, daycare centers or parks in the immediate area, and (6) review all information acquired to determine if the collection and analysis of soil samples is warranted at the site or at any nearby property.

This report summarizes the findings of the tasks outlined above for the former lead smelter known as the U.S. Smelting Works site located at American Street and Bristol Street, Philadelphia, Pennsylvania, 19140. Each former smelter property was given a number in Eckel's study. The Eckel study number for this site is 68 (Ref. 1).

## **2.0 SITE LOCATION**

The former U.S. Smelting Works facility was located at the intersection of American and Bristol Streets, Philadelphia, Pennsylvania, 19140. The geographic coordinates of the former U.S. Smelting Works facility are 40.016124 north latitude and 75.130803 west longitude on the Philadelphia, Pennsylvania-New Jersey Quadrangle, 7.5 minute series, United States Geological Survey topographic map (see Appendix A, Figure 1). The site is not currently listed in EPA's CERCLIS database (Ref. 4). Another facility is listed in EPA's Envirofacts database at this intersection. This facility is known as the H-B Instrument Company, EPA ID No. PAD980712343. H-B Instrument Company is a manufacturer, importer, and exporter of temperature and density measuring instruments. No further information regarding the facility is listed in the Envirofacts database. An aerial photograph of the vicinity of the former lead smelter site has been included in Appendix A, Figure 2. This aerial photograph reveals the exposed soils

and any identified areas of potential concern such as schools, daycare centers, or parks located within a half-mile radius of the site.

### **3.0 SITE OBSERVATIONS**

On December 16, 2005, Tetra Tech completed a non-sampling windshield reconnaissance of the U.S. Smelting Works site and surrounding area. A photographic record of the current site conditions is included in Appendix B. Figure 3, shows the current layout of the site and surrounding area as observed during Tetra Tech's site reconnaissance. The following observations were recorded:

- The former lead smelter property is located on the northwest corner of American Street and Bristol Street. The site is located in a commercial and residential area of Philadelphia.
- There is an unoccupied industrial building on the northeast corner of the American Street and Bristol Street intersection. There is a beer distributor on the southeast corner of the intersection. Residential properties exist south of the site along American Street and Bodine Street.
- Exposed soils were identified in the nearby vicinity associated with construction activities to the southeast of the site and residential properties located south and west of the former lead smelter.
- No water bodies are identified within one mile of the site.
- No schools, parks, or daycare facilities were identified in the immediate vicinity of the site.

#### 4.0 POTENTIAL TARGETS

Potential targets identified that may be exposed to lead-contaminated soils remaining in the vicinity of the former U.S. Smelting Works site include the nearby residential population. The population within a 4-mile radius of the site is summarized in the table below (Ref. 5).

**Population within a Four-mile Radius of the Site**

<b>Distance Ring (miles)</b>	<b>Population (number of persons)</b>
0.0 to 0.25	1,769
0.25 to 0.5	9,765
0.5 to 1.0	41,479
1.0 to 2.0	170,139
2.0 to 3.0	235,911
3.0 to 4.0	213,133

Source: U.S. Department of Commerce. Landview V Environmental Mapping Software based on the Bureau of Census 2000 Population Data. December 9, 2005.

No schools, parks, or daycare facilities were identified in the immediate vicinity of the site. Two schools have been identified within one-half mile of the site. Saint Henrys School and McClure School are located greater than one-quarter mile west of the former lead smelter. No parks are located within one-half mile of the site, however, a large open area begins one-quarter mile east of the site.

## **5.0 FINDINGS AND RECOMMENDATIONS**

The property is located in a mixed commercial/residential area of Philadelphia. Exposed soils were observed in areas in the vicinity of the site associated with residential properties. To determine if there is a threat to the residential population located in the vicinity of the former lead smelter site, it is recommended that soil samples be collected of exposed soils from the residential yards in the immediate vicinity and analyzed for lead levels.

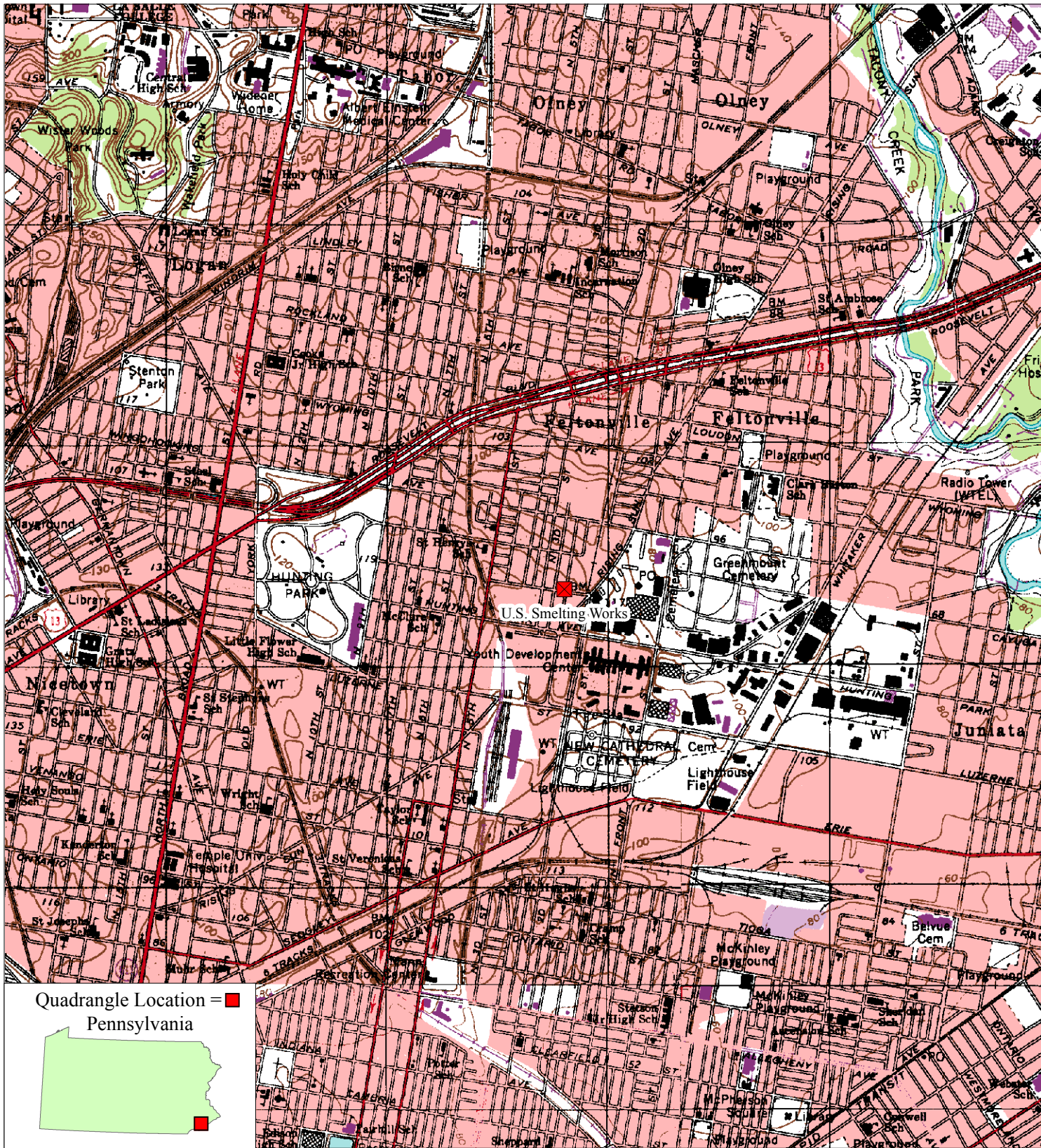
## REFERENCES

1. Eckel, W.P., Rabinowitz, M.B., Foster, G.D. American Journal of Public Health. "Discovering Unrecognized Lead-Smelting Sites by Historical Methods". April 2001.
2. Pennsylvania Department of Health. Suspected Former Lead Smelter Sites: A Potential Risk Factor for Childhood Lead Poisoning. August 2004.
3. U.S. Environmental Protection Agency (EPA). Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. OSWER Directive 9355.4-12. July 14, 1994.
4. U.S. EPA. Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) database. On-Line Address: <http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm>
5. U.S. Census Bureau. State and County Quick Facts. Accessed On-Line on December 9, 2005. On-Line Address: [quickfacts.census.gov/qfd/states/42.html](http://quickfacts.census.gov/qfd/states/42.html).



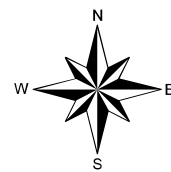
## **Appendix A**

### **Figures**



0 1,000 2,000  
Feet  
Scale in Feet

U.S. Smelting Works  
American Street and Bristol Street  
Philadelphia, Pennsylvania  
Eckel Site No. 68

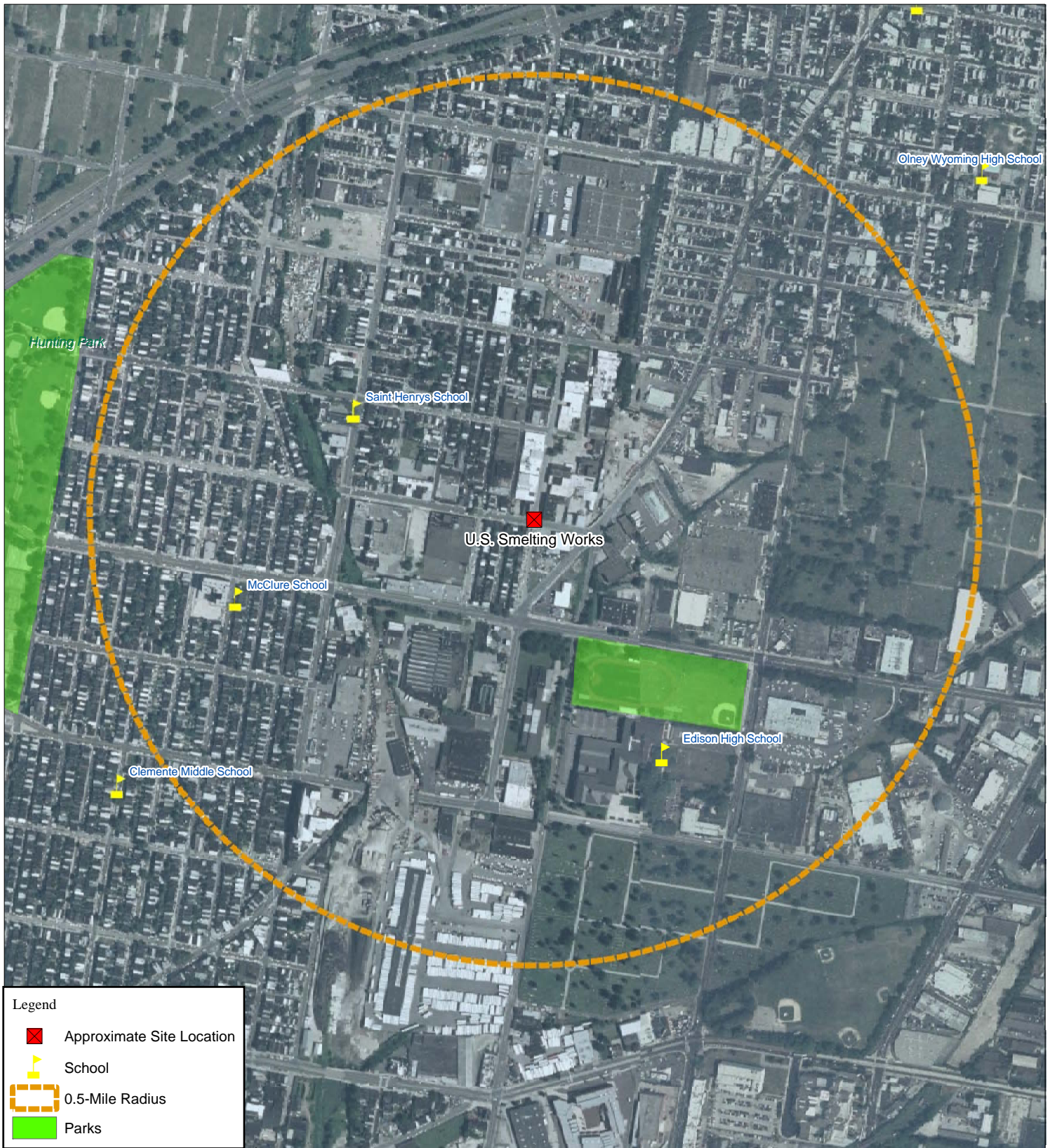


**Figure 1**  
Site Location Map

Source: Modified from USGS, Philadelphia and Camden, Pennsylvania-New Jersey Quadrangles, 1995, and Frankford and Germantown, Pennsylvania-New Jersey Quadrangles, 1997.

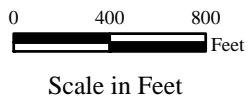




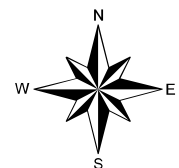


**Legend**

- Approximate Site Location
- School
- 0.5-Mile Radius
- Parks



U.S. Smelting Works  
 American Street and Bristol Street  
 Philadelphia, Pennsylvania  
 Eckel Site No. 68



**Figure 2**  
 Aerial Photograph

Source: Modified from U.S. Department of Agriculture,  
 Service Center Agencies, and ESRI, 2005



TETRA TECH EM INC.



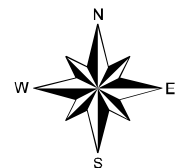
**Legend**

Pervious Surface

Buildings

0 75 150  
Feet  
Scale in Feet

**U.S. Smelting Works**  
American Street and Bristol Street  
Philadelphia, Pennsylvania  
Eckel Site No. 68



**Figure 3**  
Site Layout Map



Source: Modified from the City of Philadelphia 1996, 2000, and 2003.

**Appendix B**  
**Photographic Documentation**





## *Photographic Documentation*

**Site Name:** U.S. Smelting Works – Eckel Number 68

**Location:** American Street and Bristol Street Philadelphia, Pennsylvania

**Prepared by:** Tetra Tech EM Inc.

**Photographer:** [REDACTED]

### **Photograph No. 1**

**Photograph Date:**

October 13, 2005

**Description:** Facing northwest from American Street and Bristol Street intersection toward the former U.S. Smelting Works property.



### **Photograph No. 2**

**Photograph Date:**

October 13, 2005

**Description:** Facing north up American Street towards the former U.S. Smelting Works property on the west side of American Street.





## *Photographic Documentation*

**Site Name:** U.S. Smelting Works – Eckel Number 68

**Location:** American Street and Bristol Street Philadelphia, Pennsylvania

**Prepared by:** Tetra Tech EM Inc.

**Photographer:** [REDACTED]

### **Photograph No. 5**

**Photograph Date:**  
October 13, 2005

**Description:** View of residents located along American Street, south of site.



### **Photograph No. 6**

**Photograph Date:**  
October 13, 2005

**Description:** Residential development located west of the former U.S. Smelting Works property.

